

REMARKS

SUMMARY

Claims 1-9, 10-14, 17-30, and 35-39 have been amended. Claims 1, 4, 6-9, 11-14, 17-21, and 35-38 were rejected. Claims 5, 22-30, and 39 were objected to for being allowable if rewritten in independent form. Applicants thank the Examiner for considering Applicants' previous arguments and for acknowledging Applicants' claim to priority.

CLAIM REJECTIONS UNDER 35 U.S.C. § 103

Claims 1 and 35 were rejected under § 103(a) in view of Applicant Admitted Prior Art ("AAPA") and U.S. Pat. No. 6,246,716 issued to Schneider ("Schneider"). In response, Applicants have amended claim 1, which now recites, in part:

a training circuit to set phase and amplitude characteristics of the differential buffer by determining which phase and amplitude characteristics minimize peak-to-peak noise at the receiver buffer output upon introduction of a training signal to the transmitter.

This portion of claim 1 has been added by amendment in this response and no portion of AAPA or Schneider was cited by the Office as teaching or suggesting this subject matter. But on page 5 – in a rejection of a previous version of claim 3 – the Office cited Col. 27 line 59 through column 29 line 3 of U.S. Pat. No. 6,320,867 issued to Bellenger et al. ("Bellenger") as teaching a finite state machine that varies phase and gain characteristics of the differential buffer upon introduction of a training pattern. This section of Bellenger is an excerpt from the ITU Telecommunications V.34 specification describing modem startup; in particular, phase 3: equalizer and echo canceller training. Phase 3 does describe a training pattern, and does apparently train an echo canceller. But nowhere within the excerpted V.34 specification does it describe "a training circuit to set phase and amplitude characteristics of the differential buffer by determining which phase and amplitude characteristics minimize peak-to-peak noise at the receiver buffer output upon introduction of a training signal to the transmitter" as required by amended claim 1. In fact, what the modem is meant to do with the training sequence is not covered by the excerpted text.

Also, there is no indication that modifying a Bellenger modem to include the training circuit of claim 1 would have been helpful. In fact, because the Bellenger modem is meant to be V.34 compatible, such a modification would likely have rendered Bellenger unsuitable for its

intended purpose. Applicants therefore submit that there would have been no suggestion to modify Bellenger to achieve the integrated circuit of claim 1. For at least these reasons, Applicants submit that the combination of AAPA, Schneider, and Bellenger fails to teach or suggest all elements of claim 1.

Claim 35 has been amended to depend from claim 39; for reasons discussed below, Applicants submit that claim 39 is in a condition for allowance and that claim 35 is allowable by virtue of its dependence on claim 39.

Claim 2 was rejected under §103(a) in view of AAPA, Schneider, and U.S. Pat. No. 6,362,672 issued to Geist (“Geist”). Geist was cited for teaching adjusting a third signal in rise time. Whether or not this is true, Applicants submit that Geist fails to cure the deficiencies of AAPA and Schneider. Therefore, Applicants submit that claim 2, incorporating the limitations of claim 1, is nonobvious and therefore patentable over AAPA, Schneider, and Geist.

Claim 3 was rejected under §103(a) over AAPA, Schneider, and Bellenger. For reasons discussed above, Applicants submit that Bellenger fails to cure the deficiencies of AAPA and Schneider. Therefore Applicants submit that claim 3, incorporating the limitations of claim 1, is nonobvious and patentable over AAPA, Schneider, and Bellenger.

Claim 4 was rejected under AAPA, Schneider, Bellenger, and U.S. Pat. No. 6,100,716 issued to Adham et al. (“Adham”). Adham was cited for teaching a chain of buffers. Whether or not this is true, Applicants submit that Adham fails to cure the deficiencies of AAPA and Schneider. Thus, Applicants submit that claim 4, incorporating the limitations of claim 1, is nonobvious and therefore patentable over AAPA, Schneider, Bellenger, and Adham.

Claim 6 was rejected under §103(a) over AAPA, Schneider, and Adham. For at least the same reasons as above, Applicants submit that claim 6, incorporating the limitations of claim 1, is patentable over this combination.

Claims 7 and 38 were rejected under §103(a) over AAPA, Schneider, and “A CMOS Differential Buffer Amplifier with Accurate Gain and Clipping Control” by Chang et al.

("Chang"). Chang is cited for teaching external gain control. Whether or not this is true, Applicants submit that Chang fails to cure the deficiencies of AAPA and Schneider. Thus, Applicants submit that claim 7 is non-obvious and therefore patentable over AAPA, Schneider, and Chang.

Claim 38 ultimately depends from claim 39. As discussed below, Applicants submit that claim 39 is condition for allowance. For at least the same reasons, Applicants submit that claim 38 is also in a condition for allowance.

Claims 8, 11, and 20 were rejected under §103(a) over APA, Schneider, U.S. Pat. No. 6,166,573 issued to Moore et al. ("Moore"), U.S. Pat. No. 6,278,785 issued to Thomasson ("Thomasson"), and Geist. Moore was cited for teaching a coarse delay circuit and a fine delay circuit. Thomasson was cited for teaching an amplitude control circuit. Whether or not this is true, Applicants submit that neither Thomasson nor Moore cure the deficiencies of AAPA, Schneider, and Geist. Therefore, Applicants submit that claims 8, 11, and 20, incorporating the limitations of claim 1, are non-obvious and therefore patentable over the combination.

Claims 9 and 14 were rejected under §103(a) over AAPA, Schneider, Moore, Thomasson, Geist, and Bellenger. For at least the reasons already discussed, Applicants submit that claims 9 and 14, incorporating the limitations of claim 1, are nonobvious and therefore patentable over this combination.

Claim 12 was rejected under §103(a) over AAPA, Schneider, Moore, Thomasson, Geist, and U.S. Pat. App. Pub. No. 2002/0070783 filed by Saeki ("Saeki"). Saeki is cited for teaching a digital delay line having a cascade of buffers. Whether or not this is true, Applicants submit that Saeki fails to cure the deficiencies of AAPA, Schneider, Moore, Thomasson, and Geist. Thus, Applicants submit that claim 12 is nonobvious and therefore patentable over this combination.

Claim 13 was rejected under §103(a) over AAPA, Schneider, Moore, Thomasson, Geist, and U.S. Pat. No. 5,278,567 issued to Nourrcier ("Nourrcier"). Nourrcier is cited for teaching a pair of multiplexers which selects signals from a digital delay line. Whether or not this is true, Applicants submit that Nourrcier fails to cure the deficiencies of AAPA, Schneider, Moore,

Thomasson, and Geist. Thus, Applicants submit that claim 13 is nonobvious and patentable over the combination.

Claim 17 was rejected under §103(a) over AAPA, Schneider, and Thomasson. For at least the same reasons discussed above, Applicants submit that claim 17 is patentable over this combination.

Claim 18 was rejected under §103(a) over AAPA, Schneider, Moore, Thomasson, Giest, and U.S. Pat. No. 6,404,255 issued to Filliman et al. (“Filliman”). Filliman was cited for teaching an amplitude control circuit comprising a buffer with a variable load. Whether this is true or not, Applicants submit that Filliman fails to cure the deficiencies of AAPA, Schneider, Moore, Thomasson, and Giest. Thus, Applicants submit that claim 18 is nonobvious and therefore patentable over this combination.

Claim 19 was rejected under §103(a) over AAPA, Schneider, Moore, Thomasson, Geist, Filliman, and U.S. Pat. No. 5,334,891 issued to Marbot (“Marbot”). Marbot was cited for teaching a training circuit configured to control gate voltages of NMOS transistors. Whether this is true or not, Applicants submit that Marbot fails to cure the deficiencies of APA, Schneider, Moore, Thomasson, Geist, and Filliman. Thus, Applicants submit that claim 19 is nonobvious and patentable over this combination.

Claim 21 was rejected under §103(a) over AAPA, Schneider, Moore, Thomasson, Geist, Bellenger, and U.S. Pat. No. 4,991,166 issued to Julstrom (“Julstrom”). Julstrom was cited for teaching controlling a rise time using capacitors. Whether or not this is true, Applicants submit that Julstrom fails to cure the deficiencies of AAPA, Schneider, Moore, Thomasson, Geist, and Bellenger. Thus, Applicants submit that claim 21 is nonobvious and therefore patentable over this combination.

Claim 36 was rejected under §103(a) over AAPA, Schneider, and U.S. Pat. No. 6,259,680 issued to Blackwell (“Blackwell”). Claim 36 ultimately depends from claim 39

which, as discussed below, Applicants submit is in a condition for allowance. Therefore, Applicants submit that claim 36 is also in a condition for allowance.

Claim 37 was rejected under §103(a) over AAPA, Schneider, and Geist. Claim 37 ultimately depends from claim 39 which, as discussed below, Applicants submit is in a condition for allowance. Therefore, Applicants submit that claim 37 is also in a condition for allowance.

ALLOWABLE SUBJECT MATTER

Claims 5, 22-30, and 39 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In regards to claims 5, and 22-30, Applicants thank Examiner for indicating the allowability of these claims, but submit that they are allowable by virtue of their dependence on claim 1.

In regards to claim 39, it has been rewritten to be in independent form, but without including all of the limitations of the base claim and any intervening claims. Applicants submit that claim 39 is in a condition for allowance as written.

OTHER PRIOR ART CITED

Applicants note the other prior art cited.

CONCLUSION

In view of the foregoing, Applicants submit that all pending claims are in a condition for allowance, and an early notice to that effect is respectfully requested. If the Examiner has any questions concerning the present paper, the Examiner is kindly requested to contact the undersigned at (206) 407-1542. If any fees are due in connection with filing this paper, the Commissioner is authorized to charge the Deposit Account of Schwabe, Williamson and Wyatt, P.C., No. 50-0393.

Respectfully submitted,
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